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(12) # EUROPEAN PATENT APPLICATION

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(71) Applicant: **Chen, Chin-Lung**
No. 30, Thai Yuan Road Sec. 1 West Dist.
Taichung City(TW)

(72) Inventor: **Chen, Chin-Lung**
No. 30, Thai Yuan Road Sec. 1 West Dist.
Taichung City(TW)

(74) Representative: **Righetti, Giuseppe**
Bugnion S.p.A. Via Carlo Farini, 81
I-20159 Milano(IT)

(54) **Water-proof snow boot.**

(57) The present disclosure is related to a water proof snow boot and the method of manufacturing the same; a water-proof plastic intermediate member (10) is disposed between the outer leather covering (30) and the inner lining (20)of the boot so to prevent water or moisture from coming into the boot through tiny pores of the leather covering (30) by permeation, causing discomfort of the wearer's foot.

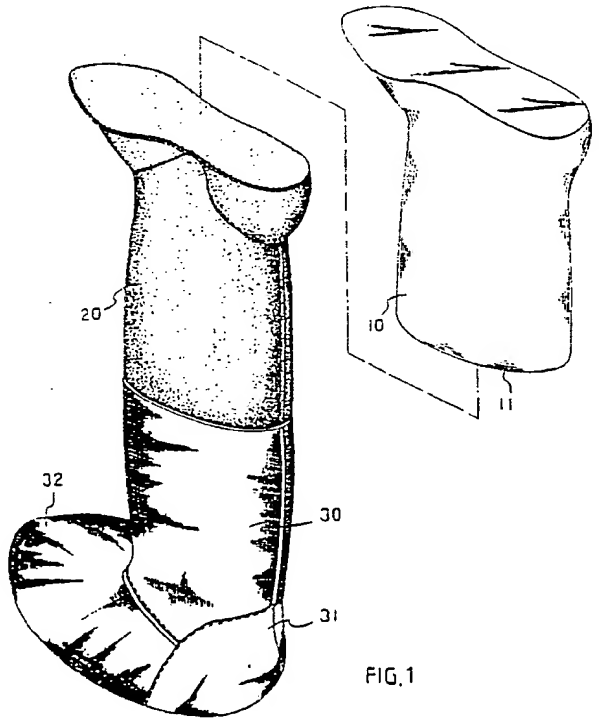

FIG.1

EP 0 380 902 A2

Water-proof snow boot

The present invention is related to an improved boot in which an intermediate member made of water-proof plastic material is sandwiched between the outer covering and the inner lining of the boot, thereby water or moisture can be prevented from permeating through tiny pores on the covering of either natural or synthetic leather into the boot.

Snow boots are adapted for wearing in snowy weathers for better protection of the wearer's feet against the freezing cold and moist ground covered by snow. General snow boots are made to have only outer leather coverings and inner linings; the outer leather coverings can either be natural or synthetic. No matter what material is used, there are plurality of tiny pores on the surface of the leather coverings permitting moisture or water to permeate therethrough as long as the boots are exposed to the snowy environment for a period of time. The permeated moisture will get the inner linings wet and make the feet rather discomfortable as a result of the dampness of the socks and feet. Moreover, the feet can be affected because of long-term exposure to dampness.

The present inventor noticed the disadvantages inherent with prior art snow boots and worked with effort to make improvement thereon and also disclosed a method of manufacturing the same.

Therefore, the primary object of the present invention is to provide an improved water-proof snow boot and the method of manufacturing the same; the present boot is equipped with an intermediate member made of water-proof plastic material and disposed externally of the inner lining of the boot; i.e., the intermediate member is disposed between the outer leather covering and the inner lining so that water can be stopped from permeating into the boot.

One further object of the present invention is to provide a manufacturing method of the water-proof snow boot which includes the following steps of: integrating a preshaped water-proof intermediate member of plastic material to a correspondingly formed inner lining coated with adhesive substance over part of the external surface thereof so that the two can be bound firmly together; turning the outer leather covering inside out, which consists of a heel portion and foot covering on all of which are provided with thermoadhesive material; stitching the rim of the opening of the boot to the rim of the integrated intermediate member, then overturning the leather covering all the way to cover the intermediate member and sticking a midsole to the bottom of the properly folded leather covering, then sticking further an outer sole to the bottom of the midsole to complete the water-proof snow boot.

To better illustrate the structure and operational steps of manufacturing the present snow boot, a number of drawings are given in company with a detailed description of the preferred embodiment, in which:

- Fig. 1 is a diagram showing a sectional view of the present water-proof snow boot;
- Fig. 1A is an enlarged diagram showing the structure of the rim of the opening of the boot, circled and indicated by "A" in Fig. 1;
- Fig. 2 is a diagram showing the structure of a boot-like water proof plastic intermediate member;
- Fig. 3 is a diagram showing the manufacturing step of stitching the rims of the intermediate member and the leather covering together with the latter turned inside out; and
- Fig. 4 is a diagram showing the step of overturning the inside-out leather covering to cover the external surface of the intermediate member.

Referring to Fig. 1, the present water-proof snow boot comprises a water-proof plastic intermediate member 10, an inner lining 20, a leather covering 30 having an attached heel member 31 a midsole 40 and an outer sole 50.

The structure and the manufacturing steps of the present invention are given as follows:

1. The intermediate member 10 is conventionally formed by way of a mold with melted plastic material coated all over the inner surface thereof, then the member is blown dry and cooled for shape forming and removed out of the mold with the member shaped in a boot form as shown in Fig. 2. This step is not included in the claims of the present invention.

2. Stitching a number of pre-cut pieces of soft lining material and leather separately together to form respectively the boot-shaped inner lining 20 and a bottom-opened outer leather covering 30, and coating the outer surface of the inner lining at the foot portion thereof with thermo-adhesive substance, then seaming the rims of the top openings of the inner lining 20 and outer leather covering 30 together as shown in Fig. 3.

3. Covering the inner side of the outer leather covering 30 with thermo-adhesive strips 32 and adhering with glue a heel member 31 to the heel portion of the leather covering, for facilitating shape forming and strengthening the assembly.

4. Joining the water-proof intermediate member 10 and the inner lining 20 together by placing the former on top of the correspondingly shaped latter, then adhering the rims of the openings of the intermediate member 10 and the inner lining 20 together by glue so to prevent the inner lining 20

from collapsing..

5. Placing a foot-shaped shoetree into the inner lining 20 and adding heat to activate the thermo-adhesive substance so to permit the intermediate member 10 and the inner lining 20 to bind firmly together.

6. Overturning the inside-out leather covering to cover the intermediate member 10, then heating the leather covering 30 to make the thermo-adhesive strips 31 work for firmly binding the two together, as shown in Fig. 4; then adhering the midsole 40 to the bottom of the intermediate member 10, and attaching the periphery of the opened bottom of the leather covering 30 to the underside of the midsole 40 by glue, afterwards fixing the outer sole 50 to the underside of the midsole 40 by adhesive substance to obtain a water-proof snow boot of the present invention.

It has been clearly disclosed that the present snow boot is able to effect water-proof purpose by sandwiching the intermediate member 10 made of water-proof plastics between the leather covering 30 and the inner lining 20 so that moisture or water cannot permeate into the boot through a plurality of tiny pores of the outer leather covering 30. Thus, the inner lining 20 can be kept dry all the time. Moreover, the foot in the boot can still have little space to move so that air circulation will be available. Besides, cold weather makes the problem of boot perspiration less serious so that the inside of the boot can always be kept comfortably dry.

Claims

1. An improved water proof-snow boot and the method of manufacturing the same, comprising:
a. a water-proof intermediate (10) member formed in a boot-like shape and made of plastic material;
b. an inner lining (20) defined in boot-like shape and having an opening at the top thereof;
c. an outer leather covering (30) defined in boot-like shape and having an opening at the top with the peripheral rim thereof stitched with that of the top opening of said inner lining (20), the bottom of the boot being defined in an open form, and the surface thereof covering the back of foot being attached with thermo-adhesive strips and the heel portion thereof being attached with a heel member (31) by adhesive substance;
d. a midsole (40) fixed by glue at the bottom of said plastic water-proof intermediate member;
e. an outer sole (50) attached by glue at the bottom of said midsole (40) with the rim of said opened bottom of said outer leather covering (30) adhered to the bottom of said midsole (40); whereby the respective components formed separately in advance are assembled together by seaming or adhering together by glue with said water-proof intermediate member (10) sandwiched between said inner lining (20) and said outer leather covering (30) so that water or moisture cannot permeate through tiny pores of said outer leather covering (30) into said inner lining (20);
the process of manufacturing the snow boot further comprising the steps of:

1. inserting said inner lining (20) into said water-proof plastic intermediate member (10) by a shoetree binding the rims of the openings of the two together by adhesive material;

2. putting a shoetree into said inner lining (20) and adding heat from outside of said intermediate member (10) so that the two can be firmly bound together;

3. seaming the rim of the top opening of said outer leather covering (30) with that of the opening of said inner lining (20) with the inside of the outer leather covering turned out and disposed in head to head connection with said inner lining;

4. attaching the inner surface of said outer leather covering (30), which covers the back of a foot, with thermo-adhesive strips and fixing a heel member (31) by glue to the inner heel portion;

5. overturning said inside-out leather covering (30) to cover all the surface of said intermediate member (10);

6. heating up the surface of said leather covering (30) for melting said thermo-adhesive strips thereon so that said outer leather covering (30) and said intermediate member (10) can be firmly joined together;

7. attaching a midsole (40) to the bottom of said intermediate member (10) by glue;

8. adhering the periphery of the open-bottomed leather covering (30) to the underside of said midsole (40);

9. attaching said outer sole (50) to the bottom of said midsole (40) to complete the production of the snow boot.

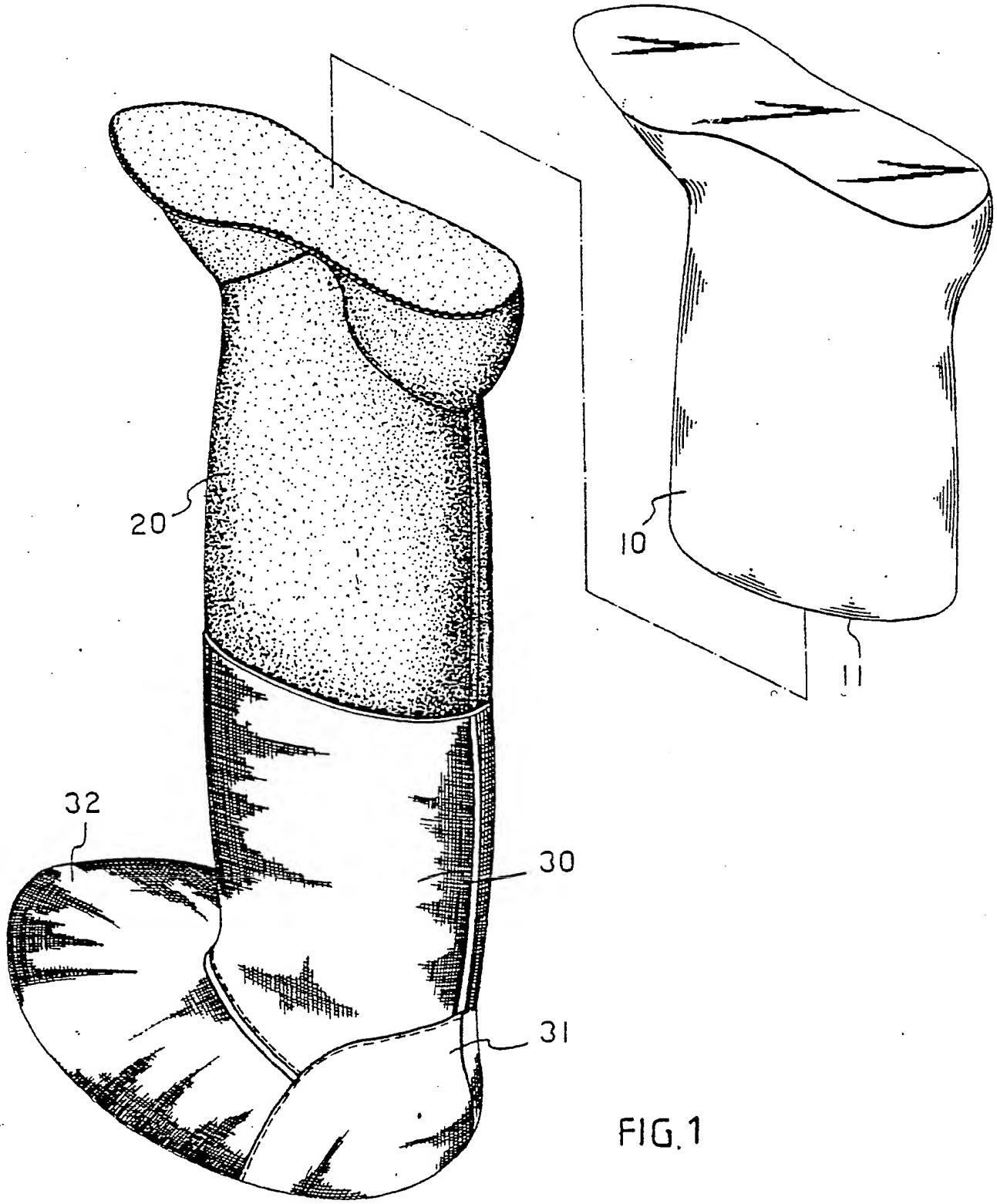

FIG.1

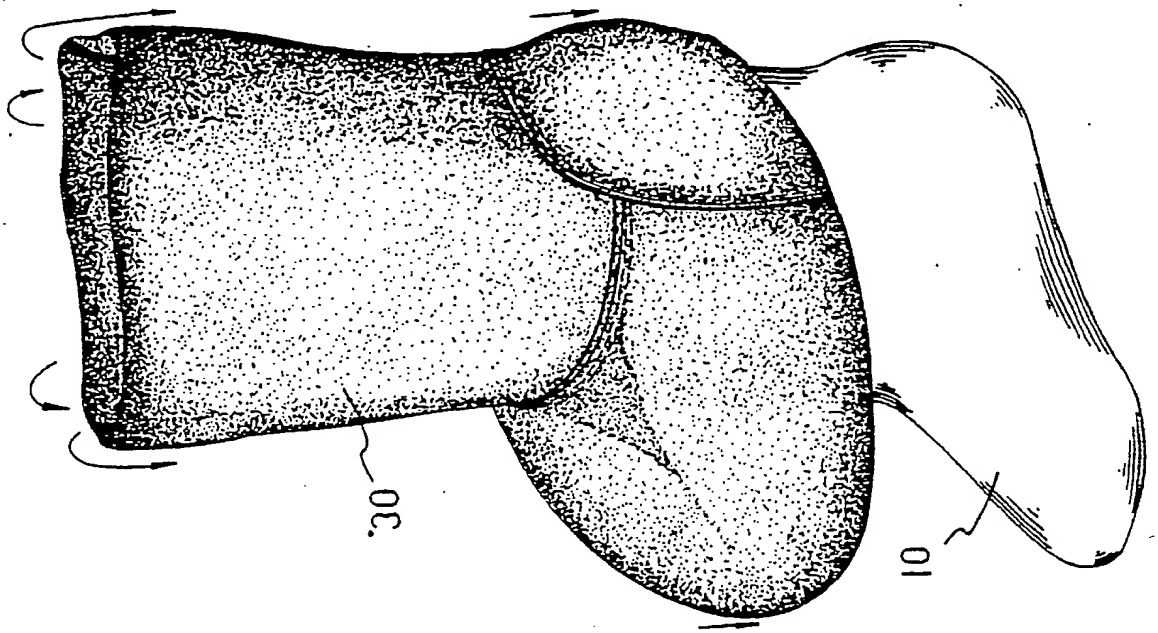

FIG.2

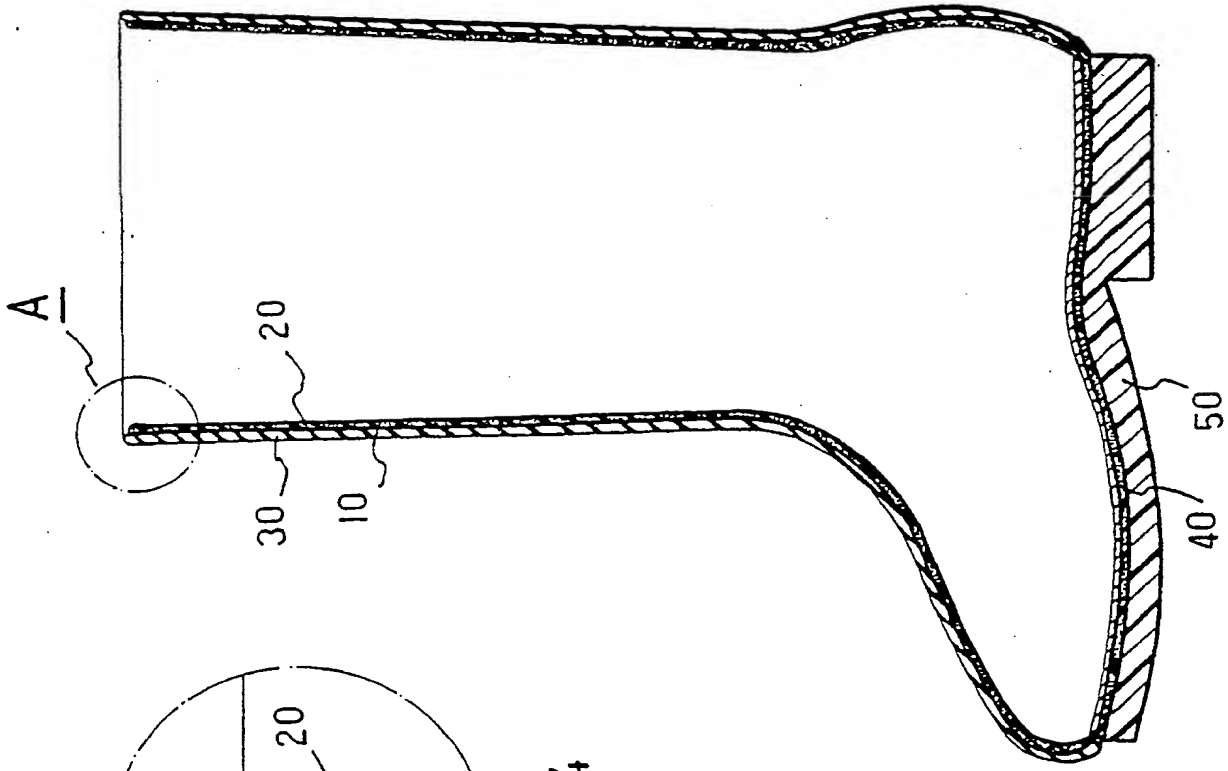

FIG.3

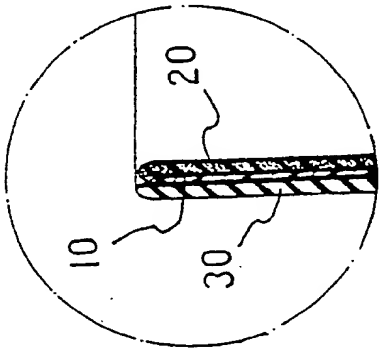

FIG 4

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(71) Applicant: Chen, Chin-Lung
No. 30, Thai Yuan Road Sec. 1 West Dist.
Taichung City(TW)

(72) Inventor: Chen, Chin-Lung
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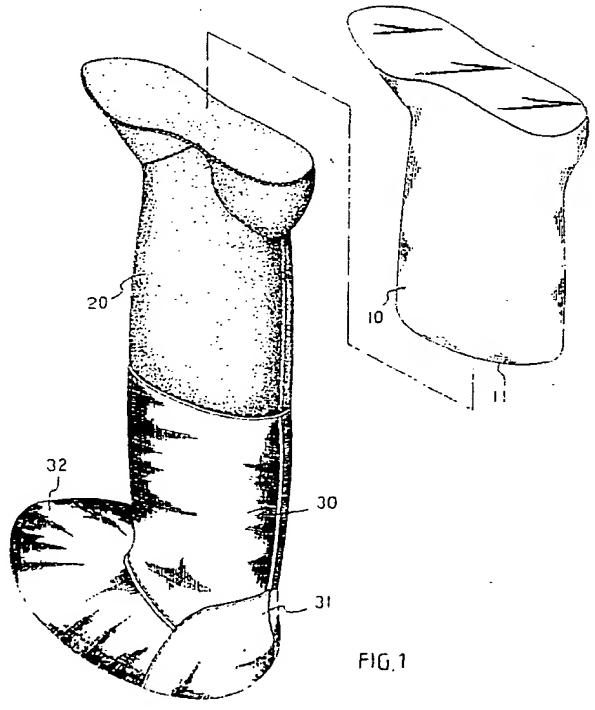

FIG.1

EP 0 380 902 A3

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EUROPEAN SEARCH REPORT

Application Number

EP 89 83 0318

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-4 430 811 (HOZUMA OKADA) * Figure 1; column 2, lines 30-57 *	1	A 43 B 3/02
A	GB-A-2 200 031 (GORE-TEX) * Figure 1; page 5, lines 5-11 *	1	
A	EP-A-0 022 754 (D'AGOSTINI) * Whole document *	1	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

A 43 B

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	06 May 91	ANDEREGG P-Y.F.

CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone
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